

Z88 EPROM

June 1991

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Club Addresses

All articles for **Z88 EPROM** and any membership matters (**except** Software Library) should be sent to:

**ROY WOODWARD
Z88 USERS' CLUB
68 WELLINGTON STREET
LONG EATON
NOTTINGHAM
NG10 4NG**

All requests for software from the Club Software Library, items for inclusion in the Library, and EPROMs for erasure should be sent to:

**IAN BRABY
THE SOFTWARE LIBRARY
Z88 USERS' CLUB
3/8 JENNER ROAD
GUILDFORD
SURREY
GU1 3PL**

Please note that the **Library** address is the one to use when sending for a list of Library programs - this list is **not** available from the main Club address. Be sure to enclose £1 plus a SAE for the list. Also note that this list now includes the CLI Library list.

CLIs for inclusion in the Software Library should be sent to:

**MICHAEL HEY
18 WOODSIDE ROAD
SANDIACRE
NOTTINGHAM
NG10 5GP**

ALWAYS include your Membership Number with any correspondence. This is not just to be awkward - now the Club is large it can be very time-consuming searching the database for a member's number. Your number is printed on the address label of each issue of **Z88 EPROM**. Please be sure to enclose a stamped-addressed envelope with anything needing a reply.

Editorial

Welcome to the THIRTIETH edition of Z88 EPROM - and it seems like only yesterday when I was writing the very first issue of the magazine. The fact that it is almost four years since that historic first issue makes me feel a little older. Time marches on!

As is traditional in my Editorials, apologies first. No, I'm not going to apologise for this issue being late, because we are indeed getting back on schedule. This, the June issue, should reach you in late July (!), and if I can get another issue out during August it will actually bear the same month as issued on the cover!

The lucky winner of this month's apology is Ranger Computers Ltd of Northampton - in the last issue I printed a sample of the output from the Canon BJ10e bubblejet printer, but omitted to credit Ranger for the use of their excellent printer driver for the Canon, which produced the sample I published. If you would like a copy of the Ranger driver, contact Ranger Computers, not me!

At the beginning of July I received a package from EFS of Cambridge containing their new hardware products for evaluation - the 256k EPROM and 1Meg RAM cards announced in the last issue. Needless to say both worked first time, and I believe the 1Meg RAM card sent to me was one of only two so far produced, which makes me feel very important (cue sound of stretching skin as it tries to accomodate my ever-growing head). Seriously, the 1Meg RAM should be available in quantity by the time you read this, and the 256k EPROM is readily available as I write. Many thanks to EFS for the samples, and I trust you are already working on a 512k EPROM!

These words are actually being typed into my Z88 with the new 1Meg RAM card installed, and as I type a quick visit to the options page (pause) confirms that I have 693248 bytes left. Perhaps it's time to purge one or two of those old files?

I sent the 256k EPROM to Steve Marsh, who as you may remember runs the Application Library, so that Steve could make sure there were no problems in blowing these larger EPROMs. After a few days Steve contacted me to confirm that yes, he could handle the 256k chip, and he had combined a Wordmongers SuperChip and Spellmaster onto the EPROM to prove his case.

Read more about Steve's exploits in the Application Library Update later in this issue.

Just a quick reminder that I still have copies of the complete Index to Z88 EPROM volumes 1 to 4, available by post from me for the princely sum of £1. I find it makes it so much easier to locate that article that you just knew was there, or as they say on the telly, "I never knew there was so much in it". Also, at the time of writing, I have ALL Z88 spares in stock for immediate despatch, a situation almost unheard of previously. The only item I am currently having difficulty getting from CCL is the Software Developers Notes, which are apparently out of print at the moment.

One slight change to the Club Library setup - Michael Hey, who has previously run the CLI Library, has passed this over to Ian Braby, due to an increase in personal commitments since the arrival of his little bundle of joy earlier in the year. The CLI Library now becomes a section of the main Software Library, and the list of CLI routines will now be included in the general Library list available from Ian. Please note that new CLIs for inclusion in the Library should still be sent to Michael, who will still vet new entries before inclusion.

I expected my announcement a couple of issues ago, that I can send Club EPROMs to members wishing to send me a contribution to Z88 EPROM, to generate a huge influx of new articles for the magazine. Sorry, but this has not been the case. Is there anybody out there? Now that the Great British Summer is with us, get those Z88s out in the Garden, and get writing!

Newslines

Fax Modem for Z88

Ranger Computers of Northampton have announced a modem for the Z88 which will allow users to transmit fax messages from their Z88.

The new pocket modem, measuring just 5" x 3" x 1" and battery powered, comes with a connecting cable and application software for the Z88. This allows the Z88 user to write fax documents in PipeDream, and transmit them at speeds up to 4800 baud to any Group 3 fax machine anywhere in the world.

As a bonus, the modem also supports standard data communication at either 1200/1200 or 2400/2400 baud.

The modem comes supplied with a cable which will allow connection to a standard BT modular telephone jack, while an optional acoustic coupler is available to allow use in other countries.

The Ranger Fax Modem can also be hooked up to a standard PC, and be used to either send faxes or data from the PC.

Availability is from early August at a price of £395.00 + VAT, which includes Z88 software and cables for both the Z88 and PC.

Unfortunately, the Ranger Fax Modem can only send faxes, not receive them, but if you must have fax transmission on the move, this product is the answer.

Ranger Computers are on 0604 589200, fax 0604 589505.

Colton on the move...

Colton Software, authors of PipeDream for the Z88 and other machines, have moved. Their new address is:

Colton Software Ltd
2 Signet Court
Swanns Road
Cambridge
CB5 8LA

Tel: 0223 311881
Fax: 0223 312010

And Ranger too...

Ranger Computers Moved on 1st June to new premises in Northampton. Their new address is:

Ranger Computers Ltd
Ranger House
2 Meeting Lane
Duston
Northampton
NN5 6JG

Tel: 0604 589200
Fax: 0604 589505

Helpline

If you have a technical query, write to one of our Helpliners listed below. Please note that you should include a stamped addressed envelope or sufficient return postage for your reply.

CLI Files - Contact Michael Hey by post only at: 18 Woodside Road, Sandiacre, Nottingham. NG10 5GP

Z88 to Amstrad PCW Link - Please write in the first instance to: Mr A West, 16 Southway, Burgess Hill, Sussex. RH15 9ST.

zBASE, CLI and all Wordmongers products except TX and Comms software - Contact Jason Crook (ex of wordmongers) at 4 Salisbury Close, Princes Risborough, Bucks. HP17 0JF. Telephone 08444 7075. I will also write to order in zBASE.

zBASE - Help on commands and programming. I can accept info/programs on paper. EPROM, zTape cassettes or IBM disk. Contact Robin Jarvis, 27 Gloucester Road, Waterlooville, Hants. PO7 7BJ.

Z88 to Amstrad CPC Link - Contact Duncan W. Kennedy at 32 Otterston Grove, Dalgety Bay, Fife. KY11 5PA.

BASIC Programming - Contact Richard Russell at 59 Campbell Road, Gravesend, Kent. DA11 0JZ.

Interfacing Z88 to various hardware - Mac, BBC, PADs, also UNIX and C experience - Contact J.P. Knight Email JANET on jpknight@uk.ac.lut.sunu, or snail mail during term time to Room 66, Hazlerigg-Rutland Hall, Loughborough University of Technology, Ashby Road, Loughborough, Leics, LE11 3TZ.

PipeDream/Diary/General - Contact Keith Winsor at 13 Swansea Road, Reading, Berks. RG1 8EY. Or Telecom Gold 82:TLR1747.

Z88-PCW Link - Using C-Port program. Please contact David Prestage at 47 Knighton Road, Otford, Sevenoaks, Kent. TN14 5LD.

Anything Educational - Please contact Bob Shore, 8 Anchor Close, Hathern, Leics. LE12 5HP. Telephone 0509 842670.

Machine-code Programming - Please contact Richard Smith, 29 Sandhouse Crescent, Scunthorpe, South Humberside, DN16 1JF.

Printer Setups - Please contact David Stewart at 44 Margetts, Hemingford Grey, Huntingdon, Cambs. PE18 9EP. If you have any queries concerning general printer problems, eg. correct use of cables, how to connect up the printer, printer code language, understanding the information in the printer handbook, etc. please write to David. Notes on Printing, covering the above topics, are available by post from David. Price £3.00 for 30 A4 pages of detailed advice.

File Transfers - Free file transfers to/from most formats (excluding Amiga). 10 files max. and must be Z88 related - no commercial programs copied. Send disk and pre-formatted copy media, with Club Membership and return p&p to: Phasor Video, Elcot Lane, Marlborough, Wilts, SN8 2AZ. Tel: 0672 514451 (2.00-5.00pm Mon-Fri)

Members' Letters

Two letters this time in reply to the plea for help from Father John Ryan (2527) in the last issue, regarding connecting two Z88s together for file transfer.

Philip Hodson (0713)
Newmarket

Dear Father Ryan,

I saw your letter in "Z88 EPROM" page 5.4.8 referring to my description for connecting two Z88's on page 4.6.29.

I was sorry to hear it did not work, so I followed my own instructions and made another lead. It didn't work either!

It's at times like this that one can only "Ah-hem and Ah-ha" and squirm with embarrassment, because while the first lead I ever made was according to the instructions on page 4.6.29., it additionally included other wiring connections within each male plug.

In my letter to Z88 Eprom, I didn't include the subsequent connections, because the computer "expert" I was in contact with told me they were unnecessary, and that his own lead doesn't use them. However since both yourself and I have proved that the lead is insufficient, let me reiterate and update the procedure, with my apologies all round for the inevitable inconvenience.

Obtain two 9 pin male plugs, a length of cable with at least three wires, and get out your soldering iron and solder. You will see that the pins are numbered one to nine.

I suggest your cable is at least one and a half times the longest length of a Z88 so that you can put each Z88 side by side and connect the two serial ports with your cable. You also need a tiny length of surplus wire for later, so cut an inch off this cable, and set it aside.

Connect Pin no. 2 in one male plug to Pin no. 3 of the other male plug, using one wire in your length of lead.

Similarly, connect Pin no. 3 of your first male plug to Pin no. 2 of the second male plug, using another wire of the lead.

Now connect pin no. 7 of the first plug to pin no. 7 of the other plug using a third wire.

Now this is the bit I omitted on page 4.6.29, which is the key to success:

You need to pair up Pin 4 with Pin 5 in each male plug, and similarly pair Pin 8 with Pin 9.

Do this by obtaining 4 lengths of wire each about three eighths inch (six mm) long from the one inch piece of cable you have set aside for the purpose.

Bend each of these tiny lengths into a staple, most easily done by holding each tiny wire in the centre with forceps and then bending over each end on the table.

Now go to your first male plug and insert a leg of one "staple" into each of pin 4 and 5. Solder the staple into both. Do likewise with Pin 8 and 9.

Go to your second male plug, and do likewise.

Plug your new cable into the serial ports of each Z88. **IT WILL NOW WORK. I'VE TRIED IT!**

As a test, press [V on both Z88's and press a few keys on one computer. See what you have typed on one Z88 appear on the screen on the other.

To transfer a file, Press [X on on the first Z88. To send a file, Press "S" and answer the prompt "Filename?" with the file's full name, e.g. :Ram.1/Pending/Testfile. Do nothing else yet.

On the second computer, ensure that you do have a directory called PENDING. Press [X], and Press "R" to receive a file. In response to the prompt "Filename?" type in exactly the same i.e. :Ram.1/Pending/Testfile.

Now, Press ENTER on the first Z88 and watch the transfer take place. Watch the count going up and ensure each number is identical at the end of the transfer.

Incidentally, I don't always find the number is identical at the end. The receiving Z88 is sometimes missing a few, which means that the transferred file is missing about a line and a half's worth of text near the beginning.

However, that may be due to my own poor soldering on my first cable. It hasn't happened on the couple of transfers I've made on my new cable.

To transfer batches of files, refer to page 4.6.29.

Sorry to cause you so much inconvenience John.

However, now on to other ideas:

The Z88 as a memory buffer Have you ever been doing a print-out, and wished you could be using the computer whilst 100 pages of your latest book are being printed? The problem I have is that there is only a small buffer memory in that Olympia Carrera I've mentioned before.

However, with two Z88's, you can use one as a memory buffer.

Write your text on your main Z88. When you've finished, transfer it to the second Z88 using your now working cable, as described above. Print using the second Z88. As the text comes off your printer, you can start making adjustments to the main file in the first Z88 straight away.

My only additional advice here, would be to suggest you delete everything in your "buffer Z88" after use, so that you have no copies left for you to wonder later, "Is this the latest update, or is it the one in the other computer?"

Text Editing Because of the small screen, finding text to edit can be quite a pain, especially if you are trying to correct something several pages along.

However, you will no doubt wish to print out a rough copy first, and if you had the line numbers printed, would this not be helpful?

Obtain these as follows:

With your cursor in column A type <>EIC. Another column appears to the left of your text.

Move the cursor into that new column <>TAB, and set the cursor to slot A1. Press <>X and type in ROW. Press enter and see the row number appear, probably with two decimal places.

Type in <>LDP, and enter 0. Press ENTER. That gets rid of the decimal places. Now go to the end of your text and observe how many rows you have, say 300. Now <>BRE and type in A1, to A2 A300. Press enter, and see the row numbers replicate all down your text. Print your rough copy.

To make corrections, note the row number. Say it is 285. Press <>CGS Enter B285, Press ENTER, and presto, there you are.

Finally, for your fully completed copy which requires no row numbers, place your cursor in column A, press <>EDC and wipe out the column. Now print your final text.

Of course, there is an alternative to this, and it's a very good one. Simply press <>BSE and insert some of the sentence you wish to correct.

Mains Adapters - In reply to Joyce Waldegrave (3269), page 4.4.8, mine failed after two years of use. After careful discussion with my mentor, Vic Gehardi, I took it apart, and found that a track in the circuit board had split. Out with that old soldering iron again, a few solder fumes up the nose, and a dab to the broken circuit, and its working fine again.

Rechargeable batteries - With all these new avenues opening up to internalise larger RAMs, and who knows, maybe additional software as well, those RAM and Eprom slots are going to look pretty empty. Is there anyone enterprising out there who can design a NiCad battery the shape of a RAM card to fit in the slots?

Machine-Code programming - I was in communication recently with Richard Smith whose name is listed in the HELPLINE for machine-code programming. He tells me he would be interested in arranging a correspondence course in this subject, and might even run it through the Z88 EPROM.

There would be some charge involved, but for those of us interested, why don't you contact Richard and register your interest? Let's get him moving.

Richard says he has had several enquiries about suitable books. I'd like to offer the following as a primer: "Z80 Machine Code and Interfacing" by David B. Harland, pub by Edward Arnold, ISBN 0-7131-3581-6. It explains well some of the basic terminology, but it is not designed for the Z88.

Text Scanners - I have it in my mind that it would be really useful to have a text scanner available for the Z88. Does anyone else agree with me, and is there anyone there who could make one?

Pascual Ian Nicholson (1396)
Isle of Skye

Dear Roy,

I have already sent the following information to Father John Ryan (Z88 EPROM 5.4.8) but feel this may be of benefit to other twin Z88 users too.

Although serial communication between computers can be achieved with a minimum of three wires (i.e. TxD, RxD, and GND pins), some of the remaining pins found in the serial interface often need to be connected, to simulate a full serial communications system.

Normally, the handshaking RTS, CTS and DCD lines are also used. The RTS (ready to send) signal is set active when the transmitting computer wants to send a character. The CTS (clear to send) signal is set active by the receiving computer when it detects the active RTS signal. The transmitting computer then knows that the receiving computer is ready to receive a character. The DCD (data carrier detect) signal is set active when the computer previously responsible for receiving wishes to send data to the other computer.

For two Z88's, the communication lead should be wired as follows:

- pin no. 2 (TxD) to pin no. 3 (RxD)
- pin no. 3 (RxD) to pin no. 2 (TxD)
- pin no. 7 (GND) to pin no. 7 (GND)

Additionally, in each plug, pin no. 4 (RTS) should be connected to pin no. 5 (CTS), and pin no. 8 (DCD) should be connected to pin no. 9 (+5V).

Without this last addition, both computers would wait indefinitely for each others handshake signals.

Of course it goes without saying, that the Panel popdown of both computers must have identical settings.

On a completely different note, whilst in Pipedream I find the facility for automatically generating the date using the special @ fields very helpful i.e. @d@.

However, I have noticed that during certain times of the year, the date gets chopped off, leaving only part of the date visible on the screen. For example, setting the date in the clock popdown to 1/7/91, and then typing @d@ followed by ENTER in a new Pipedream application will display "Monday 1 July 1991". But by moving the cursor over the date and then down again, only "Monda" is displayed and the original format never returns.

It is a very strange phenomenon as it only seems to occur in the year 91. Have I discovered a new bug, or is my machine (version 3) suffering from old age ?

D Stewart (3800)

My company is attempting to move into the world of IT and is probably as successful as most others - not desperately! There are plenty of computers around, but the WP package is not easy enough for beginners to get sufficiently familiar in the time they can devote to learning how to use the WP. I have had access to a WP for 5 years or so, and up until recently used a ZENITH 20Mb "lap-top". A few months go I was given a Z88, one of ten procured by the company. I used my ZENITH to run some large application programs, but its main use was to write letters and reports. I prefer to use a WP rather than draft work for typing later. Whilst the Z88 is not able to run my large application programs, it is a very competent WP.

I have found Pipedream a flexible and simple WP capable of doing everything that I wish it to with one notable exception. I have not discovered how to merge files other than using my SPELLMASTER. The other Z88s are being used by people of varying experience.

One is in the hands of a man who thinks a computer is a piece of Russian tableware. He is a busy man, but has found the benefits in using the Z88 have outweighed the difficulties in overcoming the initial MMI problems.

I use Pipedream as a spreadsheet to do my home accounts. The spreadsheet is exceptionally good, and particularly useful for compiling tables, with or without the use of expressions. I am in the process of compiling some spreadsheets for use by my colleagues at work. It is this area where the Z88 will win hands down over anything else that we have. Compiling a useful spreadsheet is so simple and the real benefits in time saved and portability of the hardware make the procurement of a second batch of machines inevitable.

The Z88 itself is a true portable. My early experiences of having the memory wiped during carriage have been overcome with the purchase of a "Cambridge Topper" and the use of the original packaging in my briefcase. Its design allows the machine to be left on my desk without having to clear away everything else, or peering over the top of the lap-top. I particularly like being able to turn the computer off when interrupted, and then enter at exactly the same place on my return. None of the loading of disks and remembering where I was and what I was doing. The Z88 is not perfect by any means, but in a world where compromise is the name of the game, the Z88 is the machine that most closely matches my needs.

I have found Z88 EPROM useful and have made use of the CLI library. It is interesting to note the different levels which Z88 users have attained, and on the basis that at least one person is less experienced than I, I offer the following contributions:

1. Document Tabulation and Addressing. I know this has been described elsewhere in a different form, but the following CLI program is simple and used a great deal at work and home. It sets up a Pipedream with tabs at 5 letter spacings and enters the address. The file is then ready to be renamed and completed. Create a file called LET.CLI and enter the following:

```

^AP^CFCTEMP.LET^E
^CW5^E^CH72^E^T
^CW5^E^CH67^E^T
^CW5^E^CH62^E^T
^CW5^E^CH57^E^T

```

```
^CW22^E^CH52^E^T
^CW30^E^CH30^E
-NAME-----^E
-HOUSE/ROAD^E
-TOWN-----^E
-COUNTY----^E
-POSTCODE--^E^E
-TOWN (0000) TEL NUMBER^E^C^T
^CFSTEMP.LET^E
```

Save as plain text. Before executing, ensure that there are no suspended activities. Once you have executed the file, you will see what should be changed in order to show your address and telephone number. To modify the program simply load LET.CLI into Pipedream, change the relevant lines then save and re-execute the file to check your modification. The file is laid out on separate lines in order to make it easier to see what it is doing.

2. Mortgage calculations. The following calculation will calculate the interest payments for a given mortgage. It can form the basis of a table into which you can enter more data, such as endowment payments, which can then be used to try out different interest rates and tax rates to help in your financial planning. Create a file in Pipedream called MORTGAGE.CAL. Enter you mortgage into A1, the present interest rate into A2 and the present rate of Tax into A3. Ensure that they are all entered using <>X. Now enter the following expression into A4 and observe the result:

```
IF (A1<=30000, (A1*A2/100/12) - (A1*A2/100/12*A3/100), ((30000*A2/100/12) - (30000*A2/100/12*A3/100)) + ((A1-30000)*A2/100/12))
```

If you are able to enter this expression correctly first time then I take my hat off to you! Mortgage Tax relief for amounts less than £30,000 is taken into account.

3. Labelling EPROMS. If you have more than one EPROM, then it is a good idea to label them. Before saving any other files to EPROM, create a file in Pipedream with the name you wish to use as the title of the EPROM. Do not enter any data into the file, then save the file as plain text. You now have a title which can be saved to EPROM which only takes up one Byte.

4. Snippets.

a. The excellent EPROMcat program (Z027 by Steve Marsh) is essential. I cannot understand why it was not part of the original software.

b. The improvements outlined in Z88 EPROM Vol.4 No.3 would make the "Z91" (wishful thinking) a great deal better. A larger screen and internal memory should be the priorities to make it a best seller.

c. An affordable 3.5 inch disk drive would be a logical step.

d. It is not worth wasting money on simple financial packages. It is very satisfying to create them and you are likely to end up with a more applicable package. If you have not experimented with Pipedream as a spreadsheet, then I recommend that you do.

My last point is simple. I have not yet had to buy a computer since one has always been provided at work. On my next move I will not have access to a company computer. I have used 4 different computers and 5 different WP packages, but it will be the Z88 that I will buy.

A Rose By Any Other Name...

by Michael W. Hey (0703).

When I grow up I would like to own a Macintosh. At the moment I am still too poor to afford one, so I have to content myself with making my Z88 as Mac-like as possible.

Following last month's coup with "cut & paste" I have decided to follow with a brand-new Mac feature that the good old Z88 has possessed for years. If you follow the quality computer press you will have heard about Apple's new System 7 for the Macintosh, which gives Mac owners many interesting new features. One of them is called "aliasing", which is the ability for one file to appear in several different places and under several different names.

I think I can hear murmurings from the audience as some of you wish me to explain why anyone could possibly want a file to have

more than one name. Well, if you are sitting comfortably I shall begin....

The Z88's filing system lets you set up all sorts of directories and subdirectories so that your files can be efficiently organised. For example I keep my bank account details in a file called "current.acc" in subdirectory /BANKS of subdirectory /FINANCE in directory /DOMESTIC in device :RAM.1.

So when I want to wring my hands over the sad state of my financial affairs I have to enter PipeDream and load

":RAM.1/DOMESTIC/FINANCE/BANKS/current.acc", which is an awful lot to type.

Invariably it takes me several tries to get the name right. Only one typing error will give a "File not found" error and an irritating BEEP. Typing "":RAM.1/D*/F*/B*/c*.acc" involves a lot of synchronised Shift-key pressing which I also invariably get wrong (resulting in another irritating BEEP).

Going into the Filer, and wandering around the subdirectories in there is yet another tedious way of finding a file.

Actually, my Z88 resembles a garden shed. All sorts of things have been slung in there, and since I bought a 512k RAM card it has gone from bad to worse. Sometimes files get "lost". I keep all my friends' addresses in a file called "addresses", which is buried somewhere deep in the filing system.

I am trying to persuade my wife that computers are highly efficient manipulators of data, and that we should have another in the house (i.e. my Macintosh).

Nothing ruins my argument more completely than when she asks, "What is your Aunt's phone number?" I consult my Z88 and get nothing but BEEPs. By the time I have persuaded the file "addresses" to load into PipeDream she has usually given up, walked into the kitchen, rummaged in a drawer, retrieved the tatty old address book and found the number herself.

Right. So I have established the need to find frequently-used files with the minimum of fuss and trouble. I shall now explain how "aliasing" works and how it will help.

To return to my bank account, I fire up PipeDream and write in slot A1:-

```
:RAM.1/DOMESTIC/FINANCE/BANKS/current.acc
```


and save this as, well, as what? I need a short, easily memorable name. I shall choose "dosh". (This is slang for money. I don't know why.) I save my one-line file as Plain Text and with the name "dosh.l" (that is a l for lolly, not a number 1). When I want to examine my financial affairs I now type <>FL dosh (and ENTER), and PipeDream does the rest. "Dosh" is, in fact, a very short list file.

And what is a "list file"? If you look in the Files menu (press the MENU key four times) you will see four entries in the middle column called "Next File", "Previous File", "Top File", and "Bottom File". If you are like me you have never used them. They were intended to allow you to break a long document (e.g. your unfinished best-selling novel) into manageable chunks and save them as separate files - for example each chapter would be saved separately. When the end of chapter one is reached you press <>FN and chapter two is loaded automatically. It is all in the manual somewhere.

I have never used list files - they are rather cumbersome in practice, and the facility has lain unused and unloved for all these years. It was not until David Brake in "MacUser" was raving about System 7's wonderful new features, and how useful he found aliasing that I realised that the answer to my "lost files" problem has been there all along. So I now keep a wee file called "addresses.l" in the top level of :RAM.1 and :RAM.0, and another called "dosh.l", and one or two others. I keep my letters in a subdirectory called LETTERS and aliases of the couple I am working on, etc., etc..

Now I can keep the address list with my aunty's phone number in an alias called "Aunty". This might be called "Aunty aliasing".

(Please note, gentle readers: keep this distinction clear - <>FL dosh.l loads the one-line list, and <>FL dosh loads the actual accounts. Note also, that when you edit a file and save it again the revised version is available from all the aliases that file may have. You never have the problem of having several versions of a file lying around, full of disorganised edits.)

BASIC programs can also have aliases. For example there is a program by Steve Marsh called "EFetch" which fetches files from EPROM without all the fuss that the Filer causes. (It is available from the Software Library as Z028).

RANGER

COMPUTERS LTD

The Z88 Specialists

SPELL-MASTER

We are delighted to be able to announce that we have been appointed exclusive distributor for the Z88 version of Computer Concepts' Spell-Master. To celebrate this important development, we are delighted to offer Z88 Users' Club members a **special offer** - for a limited period, members in the UK can obtain Spell-Master from Ranger for only **£50.00**. (£40.05 + £2.50 p&p + VAT).

- Supplied in a 128K ROM cartridge
- Easy to install
- Contains a vocabulary of almost 60,000 English words
- Provides a full text editor supporting:-
 - Fast scrolling
 - Block operations (mark, move, copy, delete)
 - Insert/overwrite modes
 - Search and replace
 - Check entire text at 5,000 words per minute
 - Check word at cursor
 - Check marked area
 - Browse through dictionary to find a word
 - Automated guessing of correct spelling
 - Add unrecognised word to user dictionary
- Direct printing from Quickedit
- WordFinder pop-down. Easily accessible within any program.
Supports:-
 - Anagrams - enter an anagram and all possible solutions in the vocabulary are listed
 - Crosswords - enter a clue with one or more letters and # to represent unknown characters. All possible matches in the vocabulary are listed
 - Guess - enter your guess for the correct spelling of a word and a short list of correct spellings is listed
 - Browse - browse through the dictionary, moving quickly and easily from one point to another, in order to find the correct spelling of a word
- Supports extension dictionaries, so that you can add your own words
- Load, check and save PipeDream files

Ranger are now shipping Spell-Master Version 1.05, which supports direct printing from Quickedit. Users with earlier versions can obtain an upgrade by sending their original EPROM back to us with £8.81 (please do not send cash). (£5.00 + £2.50 p&p + VAT).

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At last! Made on the same line as CCL's EPROM's, this is a quality product at an affordable price - only £50 + VAT (Total £61.69 including £2.50 p&p).

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PipeDream is now available for the IBM PC and compatibles, and the Acorn Archimedes. It has been completely rewritten for these computers and contains many new facilities, whilst retaining complete file and keyboard compatibility with the Z88.

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makes files on the Z88 smaller and has a password option. The squeezed files can then be copied to Eprom, Tape or Disk. See review - March '91 issue of EPROM.

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I keep an alias of that called EF, named after the Filer command <>EF. This is a one-line program:-

```
10 CHAIN ":RAM.1/LIB/BASIC/EFetch.bas"
which takes up only 37 bytes.
```

Some programs do not contain the *NAME command to update the "Your Ref." column in the Index "Suspended Activities" list. You can get round this by writing an alias program like this:-

```
10 *NAME Brilliant Game 20 CHAIN "' :RAM.1/LIB/GAMES/brilliant.bas''
```

This places the words "Brilliant Game" in the Your Ref and then loads and runs the game. Some disorganised BASIC programs leave the Z88 screen chopped up into windows, or change HIMEM or do other anti-social things which they forget to restore when they end. It is possible to add a line to re-set all these things, too. There are all sorts of other refinements possible.

I have always considered that :RAM.0 is too small to be of any real use for keeping anything larger than a gerbil (or a mouse for my future Mac). I saved everything in :RAM.1 (512k as mentioned above), and used :RAM.0 as an attic for rarely used oddments. Now I have found the perfect use for :RAM.0 - all my aliases can be kept together where they can be found easily.

Right. That's all for this month. Next month I shall try to open files by "double-clicking" them. And it would be nice to brighten up the Z88's boring screen with a few icons.

Back to your unanswered letters. (Has anyone got an unwanted colour Macintosh going cheap?)

Z88 for the Radio Amateur

By Carl Littlejohns (2943)

Callsign GW8UGJ (My local packet mailbox is GB7OAR)

Radio amateurs were amongst the first to demonstrate the usefulness of short wave (or high frequency) radio waves for communications, and now amateur radio has allocations across the radio spectrum from just off the medium wave band, to well beyond UHF television frequencies.

Apart from world wide short wave communication, hand portable very high frequency (VHF) links through booster or 'repeater' station allow low power radios to communicate across cities and other difficult terrain. Amateurs have their own satellites, and bounce signals to each other off meteor trails, the northern lights and even the moon. Helen Sharman, the British cosmonaut spoke to amateurs from a soviet amateur radio station in the MIR space station.

Amateurs communicate with morse code (telegraphy), voice (telephony), teleprinter, fax and even colour television pictures.

Computers are found increasingly in many radio 'shacks' as means of doing repetitive electrical calculations or antenna design. Computers are also used for keeping the mandatory 'log' of all contacts and calculating the distance and direction of other stations. They have all but replaced the heavy mechanical teleprinter and allowed sophisticated error checking of messages even over poor links.

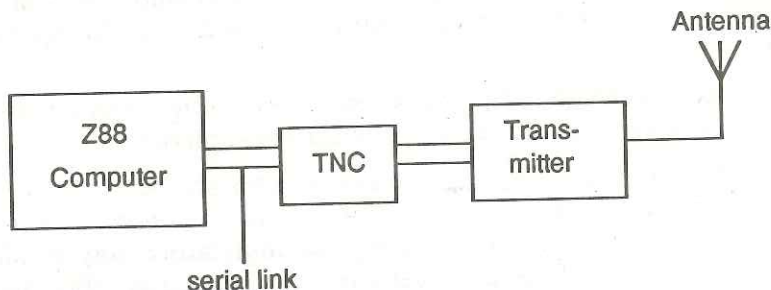
A recently developed mode of communication is called 'packet' radio. This is a system like teleprinter communication, where information typed at a keyboard is processed by a terminal node controller (TNC) before transmission through the radio in short bursts or packets. Each packet contains a piece of the text together with the address for whom it is intended. This way many different pairs of stations can talk to each other on the same channel as if they were the only two there. What is more, packets can be sent via several other radio stations that shuffle them up and down the country to their intended recipient where they are reassembled into text. Thus a packet station only needs to be able to contact one other station to send or receive text worldwide.

The packet network also supports a number of bulletin boards, which like their telephone equivalents carry messages and files, so there is plenty to do - even if there isn't anyone about.

The TNC receives the text from the amateur typing at a terminal (a combination of screen and keyboard). The Z88 will emulate a VT-52 terminal with the [JV command. This is an 'old' format, but still very much in use and it is ideal for communicating with a TNC. The Z88 forms the basis of a packet station that I frequently operate on 432.625MHz from a car (when stationary, of course).

A Packet Station

With the Z88 it will all run on batteries!



Hints and tips

The Z88 screen is a bit small when a lot of text is coming in, but the TNC can be programmed to freeze the screen output when you press the TAB key, re-starting the display when the ESC key is pressed.

The [J]+S CLI option will keep a record of text received for reading later, and allows files to be received from bulletin boards and other amateurs. A simple BASIC listing allows prepared messages to be transmitted to the TNC from the Z88's memory. The CLI facility can NOT be used to send files to the TNC as the CLI ignores any 'pause' requests from the TNC (shame!).

The RS232 port on the Z88 is a bit odd. Connecting the TNC and the Z88 to the same power supply can short circuit the Z88 power line at the serial interface. Use a separate power source for the Z88 if in doubt (I use a small pack of NiCad rechargeables).

A radio amateur licence?

The radio amateur needs to know a certain amount of electrical theory in keeping with both the experimental nature of the hobby, and the potentially intrusive nature of radio waves in the modern world.

The Radio Amateur Examination (City & Guilds) is available to anyone of 14 years or over, and recently a low power 'Novice' licence has been introduced so interested folk can 'dip in a toe' to see what they think of it all.

Have you got a scanning radio receiver? Much amateur radio activity can be heard on a 'scanner'.

Sunday morning listen on 145.525 MHz for the amateur radio news broadcast. Morse practice transmissions are on 145.250 MHz most evenings.

The amateur repeater stations are found on 25kHz steps between 145.675 MHz -- 145.800 MHz, and also 433.000MHz -- 433.375 MHz. If you leave the radio monitoring 145.825 MHz for a few hours you are likely to hear some of the amateur satellites as they shoot overhead for 5-10 minutes at a time.

On 145.650 MHz and 145.675 MHz and a few others you will hear amateur radio 'packets' shuffling about, and anything on 145.300 MHz will be radio teleprinter traffic.

More information on amateur radio, and the novice licence is available from:

Sylvia Manco, Novice Licence Information Pack, The Radio Society of Great Britain, Lambda House, Cranborne Road, Potters Bar, Herts. EN6 3JE.

Z88 RS232 Video Interface

by David Earlam (2596)

"Will the Z88 interface to a monitor or disk drive?", "Not at the moment. But it's possible for third-party developers to provide the hardware and software for both, via the RS232 port."

Remember this little piece of promising potential blurb from CCL's advertising glossy 'The Price of Freedom is Less Than You Think' ? Three different disk drive systems have been reviewed in the pages of Z88 EPROM thus far (see 3.4.13ff and 3.7.10ff). This article on the other hand is the first to deal with an RS232 to video interface, which though not designed for the Z88 nevertheless works reasonably well with it.

Manufactured since 1988 (what a good year) by the German company Wiesemann & Theis GmbH - who specialise in interfaces for the professional and hobbyist market - the not very snappily named 81064/2 is just one of a large range of micro interfacing devices whose ease of use and installation is claimed to be 'like fitting a cable'.

The 81064/2 comprises a sturdy snap-together grey ABS box about the size of one and a half cigarette packs, with a 25 pin sub D female RS232 connector on one end, and a 9 pin sub D female IBM PC monochrome monitor connector plus a 2 mm power supply socket on the other.

In Germany a small 5 Volt regulated power supply rated at 280mA and moulded onto a continental two pin mains plug is provided, but I am not sure what form this may take in Britain.

A 2 metre long coaxial cable connects a 9 pin sub D plug to CINCH video plug to drive a PAL monitor (eg a SCART equipped TV) rather than an IBM monochrome monitor if this is required instead. In either case the display area is 25 lines by 80 columns, but an IBM monitor provides higher vertical resolution of 14 as opposed to 10 pixels per character.

Interestingly enough my original 81064/2 came fitted with the German IBM character set which produced unlauted A where I expected curly left brace. Though I could have experimented with PrinterEd to get the character substitutions I wanted, a phonecall to Wiesemann & Theis technical support provided the offer of a free conversion to fit a US standard character set EPROM, which I took up. My 81064/2 was at that time nearing the end of a customer-friendly 30 days trial, with only a small handling fee (DM 15,-) in case of non-purchase. Wiesemann & Theis obviously subscribe to the 'customer is always right' philosophy of sales. Within 5 days the modified interface was returned working as desired. This shows two things - firstly the company is responsive to customer wishes and secondly national language character sets can be supported which I am sure will please the Danish Z88 Liberation Front.

The US character set is taken from the IBM PC and so provides national characters with accents, mathematical symbols and simple box drawing possibilities above CHR\$(127) as well as the standard boring ASCII.

However no smiley face or playing card suits could be found. The latter failing can easily be remedied by the pixel level graphics capability.

Installation is easy once you have broken a few fingernails opening the case to get at the ubiquitous DIL switches to set baud rate, parity and 7 or 8 data bits to match your panel settings as well as to select IBM or PAL output and normal or double character size as you require. Four sheets of good quality printed A4 describe all these settings and give a small graphics programming example in German, but the same information is to be found on both sides of the case itself in condensed form in English. None of the DIL switch settings can be overridden by software however.

A picture(!) shows the connections to be made, though unless you plug the 9 pin to coax cable straight into the Z88 you cannot go wrong. The User's Guide Appendix B serial printer cable is exactly right for connecting a Z88 to an 81064/2. Just redirect to the printer with []+P and hey presto that BASIC list output is finally decipherable and scrolls until you press SHIFT <>. The font is generally pleasingly legible too, but m looks a little like n on my Grundig 14 inch TV. Not so on an IBM compatible monitor or in double size characters though. This latter feature gives only 40 characters per line and so causes long lines to wrap around, yet would probably be useful for demonstrations or to attract attention at User Fairs (?) being legible from 10 metres or so on a small screen. According to the advertising up to 16 monitors can be connected but no details are provided on this facility in the documentation and I was in no position to test it anyway.

Go to the Index and the monitor screen becomes rather horrible because the characters redirected to the printer have no special codes for inverse display or screen position even though the 81064/2 is capable of understanding such. In other words using the video interface as a dumb printer gives dumb output.

As a softcopying printer the 81064/2 is, well, useable, given a suitable Printer Driver definition to take advantage of the one form of text highlighting available, namely inverse for bold face. I found no simple way to produce underlining. Backspacing then outputting underscore via ?,BS,"_" overwrites the character to be underlined; the pixel programming capability does not allow positioning relative to the current cursor position either - only to absolute pixel coordinates.

Superscripts and subscripts are only sensible for the IBM characters which are provided specifically for this purpose. Sadly neither italics nor any other font is available but at least the preprogrammed font looks like the Z88's.

As a graphics output device driven from BASIC the 81064/2 is satisfactory, though an XOR pixels command would be welcome. Keeping a pixel level copy of the screen in BASIC's workspace is quite a challenge, but using a sparse RAM file is a distinct possibility. I foresee some clever programmer developing an intelligent printer filter/driver which can spot which application is active and interpret the redirected screen output together with the keyboard input (cursor keys) to produce a suitable 25 line screen. For the Index and Calendar this seems a fairly trivial task, but Pipedream would virtually need to be reimplemented to handle two screens simultaneously. Think what happens to the screen when a word causes wrapping and justification. Then again Pipedream for the PC handles a larger screen proficiently enough.

My own planned projects for the 81064/2 include a Pipedream document previewer, which will show the 'maps' of several pages to give an idea of overall layout of an article and emulation of a subset of the Hewlett-Packard PCL5 or Postscript page description languages.

The 81064/2 costs DM348,- (about £120) which seems rather high to me considering that a 16 bit Technicolour Dreamcoat 1024 * 768 pixel VGA interface for an IBM PC costs roughly the same. Still, that would mean purchasing a corresponding £500+ multisync monitor when you can just dust off the little black and white you used with the old ZX81 if you connect a UHF modulator to the output of the 81064/2 (Maplin's FT30H on catalogue page 571 looks ideal).

In summary, plus or minus points are: + Well made ("in Germany") + Easy to setup and use + Good documentation + Legible steady screen + Connects to IBM monochrome or PAL (BAS) monitor + National character sets supported

- Only reverse text attribute available - No software switch of character size - No downloading of fonts possible - No cursor relative pixel plotting - Fairly costly

The complete Wiesemann & Theis range is marketed in Britain by LINDY of Thornby, Cleveland. Tel ++44-642-765275 or in the rest of Europe contact Wiesemann & Theis GmbH, Wittener Str.312, D-5600 Wuppertal 2 Germany Tel ++49-202-505077 (fax 511050).



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To mis-quote the old saying,
'Familiarity breeds ignorance.'

In this vein, those who are relatively new to the Z88 may not be aware of the benefits available to them by the use of third-party software such as our terminal or tape streamer software. The following is a brief note about these two packages.

Z - Term

This program is designed to provide general purpose terminal facilities for the Z88.

What this means is that you can connect the Z88 to a modem and so dial a bulletin board or message system, e.g. Telecom Gold or Prestel. While on-line, you can record all the text, or individual Prestel frames for reading later. This minimises on-line time. Equally, you can prepare a message using Pipedream, save it as plain text, then send it to the remote station as a mail item.

You could also send it as a file using XMODEM, which means that both Z-Term and the remote station obey the XMODEM rules for error checking. The software notes the ASCII value of each character and adds up these values for each block of 128 characters. As each block ends the 'checksum' is sent for the remote station to check. If the sum matches the host system's calculation then all is well otherwise the block is re-sent.

Z-Term can use the auto-dial facilities of Hayes modems and can store up to 5 phone numbers. Each number can also carry its own user-defined keys file so that any complicated logon procedures can be stored in a file and transmitted with a single <> command.

The first software review in Z88 Eprom, 2.2.20 contained the following.. 'The comprehensive nature of the commands available, together with the fact that it is fully menu-driven, make Z-Term a joy to use. The full HELP facility is always there, and when compared to the Help built into the resident Z88 applications, is positively over-helpful!'

Z-Term is supplied with a 28 page manual and is available from the usual sources.

Z tape

Little can be said about Z-Tape. It saves files to an inexpensive tape recorder (e.g. less than £20 at Argos) and so provides an inexpensive alternative to eproms. It looks very much like the FILER. Yes it is slow. Yes it is old fashioned. Yes, we very nearly didn't write it. We, and the hundreds of users are really pleased we did!!

See Z88 Eprom Volume 3.2. page 29 for a full review.

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Software Library Update

Yes! I'm still here and the Library keeps growing, despite the recent quiet patch.

I have been receiving a steady flow of submissions, most notably from Jack Lawrie, covering a variety of topics which, I'm sure, you will find of interest. I am also very pleased to be able to report the first new addition to the **zBase Library**, too!

First, however, I shall report on two major updates to existing programs. They are **Z105** - Inventory by John Davies (1388); John has been listening to the feedback from users and ironed out a few bugs as well as adding to the program, and **Z134** - Z88FKeys by George Ogden, now at version 3 and, whilst being continually tinkered with by George, this is pretty well the final version of his excellent function key program. He has also added some .KYS files for you to play with.

As with the majority of revisions or updates, it means that these Library files have grown, somewhat, so be aware of their new space requirement when ordering.

Z105 INVENTORY V2 by John Davies (1388). A BASIC, card-based database system. 22.5K

- A=documentation
- B=program
- C=start-up cli
- D=STOCKLIST demo file
- E=BOOKLIST demo file

Z134 Z88FKEYS by George Ogden (1078). Extends Michael Hey's concept (Z108) by allowing you to create up to 147 function keys. 37K

- A=documentation
- B=program
- C=DEMO.KYS
- D=ALLINONE.KYS

New additions:

Z143 ZX-TASWORD to PipeDream (and back again!) conversion by Austin Fox (4315). A Spectrum program only available on microdrive cartridge.

Z144 UNIX LINK by Richard Hesketh (4813). The C source for a Z88-Unix Link, ready to compile on your Unix machine. 18K

Z145-146 Two more by Jack Lawrie (4635).

Z145 WORDS; a word game with no connection with Scrabble® (honest!). 7K

A=documentation

B=program

Z146 NUMBERS; a two-way Roman numerals conversion program. 2.5K

-oOo-

Z147 TRYPE & TYPE by David Richardson (0226) being a mini, and a more advanced, typing tutor. 29K

A=documentation

B=Trype

C=Type

Z148 PORTFOLIO MANAGER by Prof.Brian Shackel (0648). Published in Z88 EPROM Vol.5 No.4. 8.5K

A=documentation

B=PipeDream spreadsheet

Z149 TRIAL BALANCE by Steve Edwards (4794). A PipeDream spreadsheet which will perform an accountant's trial balance of accounts. 26K

A=documentation

B=Pipedream spreadsheet

ZB06 THINGS TO DO by Huw Jacob (1407). A simple application which lists things to do by their priority. 6.5K

Application Library Update

By Steve Marsh (0770)

It is now 6 months since the application library was launched and I thought that it was time that I updated you on what has been happening. Following the launch in the December issue of Z88 Eprom, I had the expected flood of members wanting their ROMs merged, or copies of the two applications in the library. Whilst the flood has now subsided to a trickle, one or two problems arose which you should be aware of:

1. It was felt that the title "Superchip Service" could be confused with Wordmongers' superchips, so Roy and I have decided to re-name it **Z88 ROM Service**.

2. I have to pay cheques into my own personal account, so please make cheques payable to "S. Marsh", not the club.

3. Some early PCLINK ROMs do not have a hole in the plastic to enable the ROM to be erased. Whilst I can open up the ROM and erase it, I am unable to re-blow them. Therefore, if you are sending in one of these ROMs, I would appreciate it if you could also send a normal EPROM to store the new programs on. If anyone knows why I am having these problems, please contact me.

4. It appears that virtually all ROMs occupy most of the space on them. The only exceptions to this appear to be PCLINK and programs in the Application Library. In view of this and the problems involved in successfully relocating machine code, please assume that a 32K ROM occupies all 32K. A 128K EPROM can therefore hold at most 4 32K ROMs. If I am able to squeeze more on to the ROM than this, I will contact you by phone at the time.

5. Concern has been raised by some of the software firms that they may be asked to provide technical support for a problem which has been caused by the Z88 ROM Service (although I know of no problems to date). In view of this, I have agreed to provide a "hot-line" to answer queries relating to the service. Full details of how to contact the hotline will be returned with your ROMs.

What's New?

I now have agreement from the major software suppliers for their programs to be included as part of the service. This includes Wordmongers, Ranger Computers, Spellmaster, PCLINK, S&S Computer and Rakewell. I will approach other suppliers as and when necessary.

There are two new programs in the library:

A003 (1K) ZCHECK - (Keith Beddoe) A ROM version of Keith Beddoe's Basic Program Z123. It scans all files in RAM and reports on those which have changed, been deleted, or are new. Very useful for telling you which files need to be backed up!

A004 (1K) ZMENU - (Keith Beddoe) Despite its curt prompt ("Command>"), this is a very useful program which makes using CLI files much easier. Rather than using Filer (||F) to activate CLIs,

you just type a user defined string (e.g. "Tidy up") which might delete all RAM.- files. All the CLIs are held in one file, MENU.DAT an example of how it is formatted follows.

```
%Tidy up
#F
|er:ram.-//*-
%next command ..... and so on.
```

Full details of how to use it, as well as an example menu.dat file, will be sent with the application.

I have now obtained a 256K Eprom from EFS. I am pleased to be able to report that it is possible for me to blow these as ROMs. This means, for example, that Spellmaster and a Wordmongers Superchip can be placed on one ROM, freeing up two 128K eproms in return. As these EPROMs cost only £50 + VAT, it has to be good value for anyone who regularly uses more than one 128K ROM, or even more than 4 32K ROMs. I will contact EFS to see if I can supply 256K Eproms direct to you as part of the service. Watch this space.

I hope to bring my PC and the application library along to the next Z88 meet in October. This will allow those of you who cannot bear the thought of being without your ROMs for a week or so to use the service on the day. I will also be pleased to talk about application programming in general as well as listen to any suggestions that you may have. See you there!

NEXT ISSUE OUT LATE AUGUST
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